

# NASA TECH BRIEF

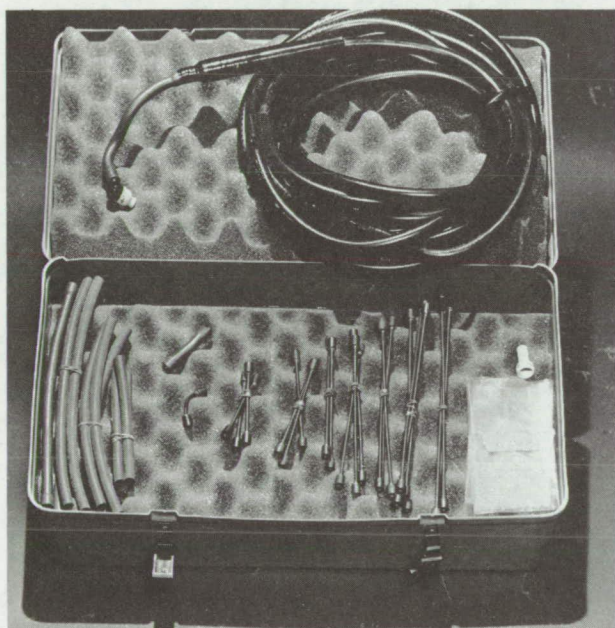
## *Manned Spacecraft Center*



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### Torch Kit for Welding in Difficult Areas

A miniature tungsten inert gas (TIG) welding torch, used with variously formed interchangeable soft-copper tubing extensions, provides an inexpensive, accurate welding capability for inaccessible or



hard to reach joints (see fig.). The extensions can be manipulated to position the weld head around obstructions. The soft copper can be formed to smaller radii than was possible with previously used TIG

torches and it retains its shape. The low cost extension heads can be shaped to fit any particular joint to be welded. Special silicone tubing provides insulation covering for the torch, which is gas cooled and generally limited to small work.

The welding kit has proved effective in welding stainless steel tubing as thin as 0.089 cm (0.035-in.). For larger work, a water cooled torch which would offer the same flexibility and range of movement could be made. Such a torch could be applicable to aircraft, transportation facilities, refrigeration units, and other system installations.

#### Note:

No additional documentation is available. Specific questions, however, may be directed to:

Technology Utilization Officer  
Code BM7  
Manned Spacecraft Center  
Houston, Texas 77058  
Reference: B71-10070

#### Patent status:

No patent action is contemplated by NASA.

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